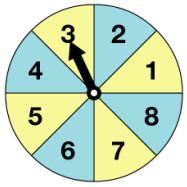
Geometry Probability Review Name: _____ Block:___

1. List the sample space for the spinner. {1, 2, 3, 4, 5, 6, 7, 8}



2. Find the intersection of A and B.

A = {1,2,3,4,5,6,7,8,9}
B = {3,6,9,12,15,18}

{3, 6, 9}

3. *Which is a subset of M?*
M = {0,1,2,3,4,5,6}

A = {0,2,4,6}
P = {1,3,5,7}
R = {1,2,3,4,5,6,7,8}

4. Michael owns fifteen pairs of pants and 80 polos. How many different outfits can he choose from?

$15 \cdot 80 = 1200$

5. A fruit bowl contains 4 green apples 7 red apples, and 3 yellow apples. What is the probability that a randomly selected apple will be green or yellow?

$\frac{4+3}{14} = \frac{7}{14} = \frac{1}{2}$

6. Samantha rolls a die, what is the likelihood that she rolls an odd number or a number larger than 2?

1 2 3 4 5 6

$\frac{5}{6}$

7. P(double) $\frac{6}{36} = \frac{1}{6}$

8. P(a sum less than 5) **or** P(even sum) $\frac{20}{36} = \frac{5}{9}$

$\frac{6}{36} + \frac{18}{36} - \frac{4}{36}$

9. P(sum of 11) **or** P(sum less than 4) $\frac{5}{36}$

$\frac{2}{36} + \frac{3}{36}$

10. P(double) **or** P(even sum) $\frac{18}{36} = \frac{1}{2}$

$\frac{6}{36} + \frac{18}{36} - \frac{6}{36}$

11. P(double) **or** P(odd sum) $\frac{24}{36} = \frac{2}{3}$

$\frac{6}{36} + \frac{18}{36}$

	2	3	4	5	6	7
	3	4	5	6	7	8
	4	5	6	7	8	9
	5	6	7	8	9	10
	6	7	8	9	10	11
	7	8	9	10	11	12

A math teacher at EPHS was interested to see how many students like each subject.

	Math	English	Social Studies	
Male	35	15	50	100
Female	40	20	30	90
	75	35	80	190

12. Find P(Social Studies) $\frac{80}{190} = \frac{8}{19}$

13. Find P(Social Studies)' $\frac{110}{190} = \frac{11}{19}$

14. Find P(Female | Math) $\frac{40}{75} = \frac{8}{15}$

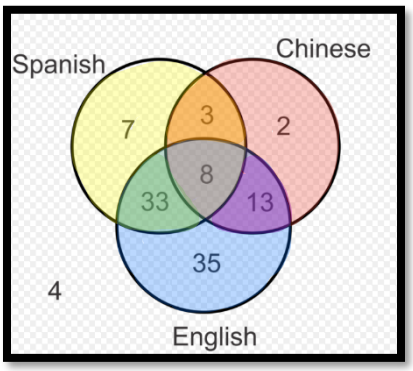
15. Find P(Math | Female) $\frac{40}{90} = \frac{4}{9}$

16. Find P(Male ∩ Social Studies) $\frac{50}{190} = \frac{5}{19}$

17. Find P(Male ∪ Social Studies) $\frac{130}{190} = \frac{13}{19}$

$\frac{100}{190} + \frac{80}{190} - \frac{50}{190}$

Use the Venn diagram to find the following probabilities.



18. P(Chinese) $\frac{26}{105}$

19. P(Spanish $\cap$ Chinese) $\frac{11}{105}$

20. P (Spanish $\cup$ Chinses) $\frac{66}{105} = \frac{22}{35}$

21. P($\overline{\text{Spanish} \cup \text{Chinese}}$) $\frac{39}{105} = \frac{13}{35}$

Questions 22-25. Decide if each set of events is independent or dependent.

22. P(A) = 0.5; P(B) = 0.3; P(A $\cap$ B) = 0.125 Dependent

23. P(A) = $\frac{1}{2}$; P(B) = $\frac{2}{5}$; P(A $\cap$ B) = $\frac{1}{5}$ Independent

24. A boy chooses a marble from a bag, puts it back in the bag, then chooses a second marble. Independent

25. A girl chooses a marble from a bag, does not put it back in the bag, then chooses a second marble. Dependent

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Using the letters in DALLAS:

26. Find the probability of picking an A and then another A with replacement. $\frac{4}{36} = \frac{1}{9}$

$\frac{2}{6} \cdot \frac{2}{6}$

27. Find the probability of picking an A and then another A without replacement. $\frac{2}{30} = \frac{1}{15}$

$\frac{2}{6} \cdot \frac{1}{5}$

28. Find the probability of picking a L and then a A with replacement. $\frac{4}{36} = \frac{1}{9}$

$\frac{2}{6} \cdot \frac{2}{6}$

29. Find the probability of picking a L and then a A without replacement. $\frac{2}{30} = \frac{1}{15}$

$\frac{2}{6} \cdot \frac{1}{5}$

A jar contains 7 red, 5 green, 2 blue, and 6 yellow marbles.

30. What is the probability of chosing a green and then a red marble with replacement. $\frac{35}{400} = \frac{7}{8}$

$\frac{5}{20} \cdot \frac{7}{20}$

31. What is the probability of chosing a green and then a red marble without replacement. $\frac{35}{380} = \frac{7}{76}$

$\frac{5}{20} \cdot \frac{7}{19}$

32. What is the probability of chosing a blue and then a red marble without replacement. $\frac{14}{380} = \frac{7}{190}$

$\frac{2}{20} \cdot \frac{7}{19}$

33. What is the probability of chosing a blue and then anohter blue marble without replacement. $\frac{2}{380} = \frac{1}{1}$

$\frac{2}{20} \cdot \frac{1}{19}$